Saskatchewan
Education

Program Policy Proposals

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Table of Contents

	Page
ACKNOWLEDGEMENTS	1
LETTER OF TRANSMITTAL	3
CORE CURRICULUM: AN OVERVIEW	4
PREFACE	6
CHAPTER ONE - THE CORE CURRICULUM POLICY ADVISORY COMMITTEE: FOUNDATIONS	
Terms of Reference	7
Basic Assumptions	7
CHAPTER TWO - THE TWO COMPONENTS OF CORE CURRICULUM	11
Common Essential Learnings	11
Required Areas of Study	14
CHAPTER THREE - BALANCE OF TIME IN THE SCHOOL PROGRAM	17
BALANCE OF PROVINCIALLY REQUIRED AND LOCALLY DETERMINED COURSES OF STUDY	17
ADAPTIVE COMPONENT	18
BALANCE OF TIME WITHIN THE SIX AREAS OF STUDY	19
Elementary Level: Kindergarten	20
Elementary Level: Grades 1-5	21
Middle Level	23
Secondary Level	25
RELATED PROGRAM POLICY	29
Prerequisite Requirements	29
Evaluation	30
Alternative Programs	30
CHAPTER FOUR - GUIDELINES FOR CURRICULUM DEVELOPMENT	31
Common Essential Learnings	31
Required Areas of Study	32
Adaptive Component	32
Curriculum Procedures Manual	33

CHAPTER FIVE - MAKING IT WORK 34

Making it Work Through Teacher Education 34
Making it Work Through Articulation 35
Making it Work Through School Program 36
Making it Work for Saskatchewan Schools 39

SUMMARY OF THE PROPOSALS 40

SELECTED BIBLIOGRAPHY 44

APPENDIX A - COMMON ESSENTIAL LEARNINGS 48

APPENDIX B - DESCRIPTION OF CURRENT PROGRAMS 51

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November 12, 1985

Hon. Patricia A. Smith
Minister of Education
Legislative Building
REGINA, Saskatchewan

Dear Mrs. Smith:

On behalf of the Core Curriculum Policy Advisory Committee I take great pleasure in presenting our final report. The Committee first met in January, 1985 and has now discharged its responsibilities to you and your department.

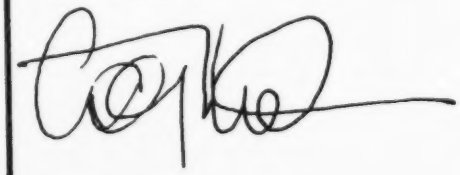
The committee's report provides proposals designed to guide future curriculum and policy development. The proposals emerge from the suggestions and recommendations contained in "Directions", the Committee members' knowledge of educational practice, and examination of current research and educational trends within and beyond Saskatchewan.

The Core Curriculum Policy Advisory Committee, by usual standards, was given a very brief time to complete its work. The committee could not have properly fulfilled its responsibilities had it not been for the dedication and support of those Saskatchewan Education officials who worked so closely with us. The few words we might write here to express our gratitude to them can only begin to properly recognize the great debt we owe them.

As well, the committee was most appreciative of the opportunity provided by your office to discuss its thinking with students, teachers, administrators, trustees and business and community representatives at a seminar in May, 1985. Those tentative first ideas about common essential learnings, areas of study, and provision of time for adaptation received broad support at the seminar and now form the underpinnings of our proposals.

The report and proposals are written in a form designed to support further discussion. The committee is prepared to assist you and Saskatchewan Education in your efforts to assess fully the acceptance and implications of the proposals with the people of Saskatchewan.

Yours sincerely,



Craig Melvin
Chairperson

Core Curriculum: An Overview

Core curriculum comprises learnings necessary for all students. The learnings are divided into two categories:

1. common essential learnings, and
2. learnings from required areas of study.

The common essential learnings are grouped under the following headings: communication skills, creative and critical thinking, independent learning skills, numerical and quantitative literacy, personal and social skills and values, and technological literacy. The purpose of the common essential learnings is to provide students with generic skills, processes, and values which can be applied in a wide range of settings and situations. They are intended to equip students for life beyond school, no matter what the student chooses to do.

The required areas of study are language arts, mathematics, aesthetic education, health education, physical education, science, and social studies. Each of these required areas has unique knowledge, skills, and values that are essential for all students.

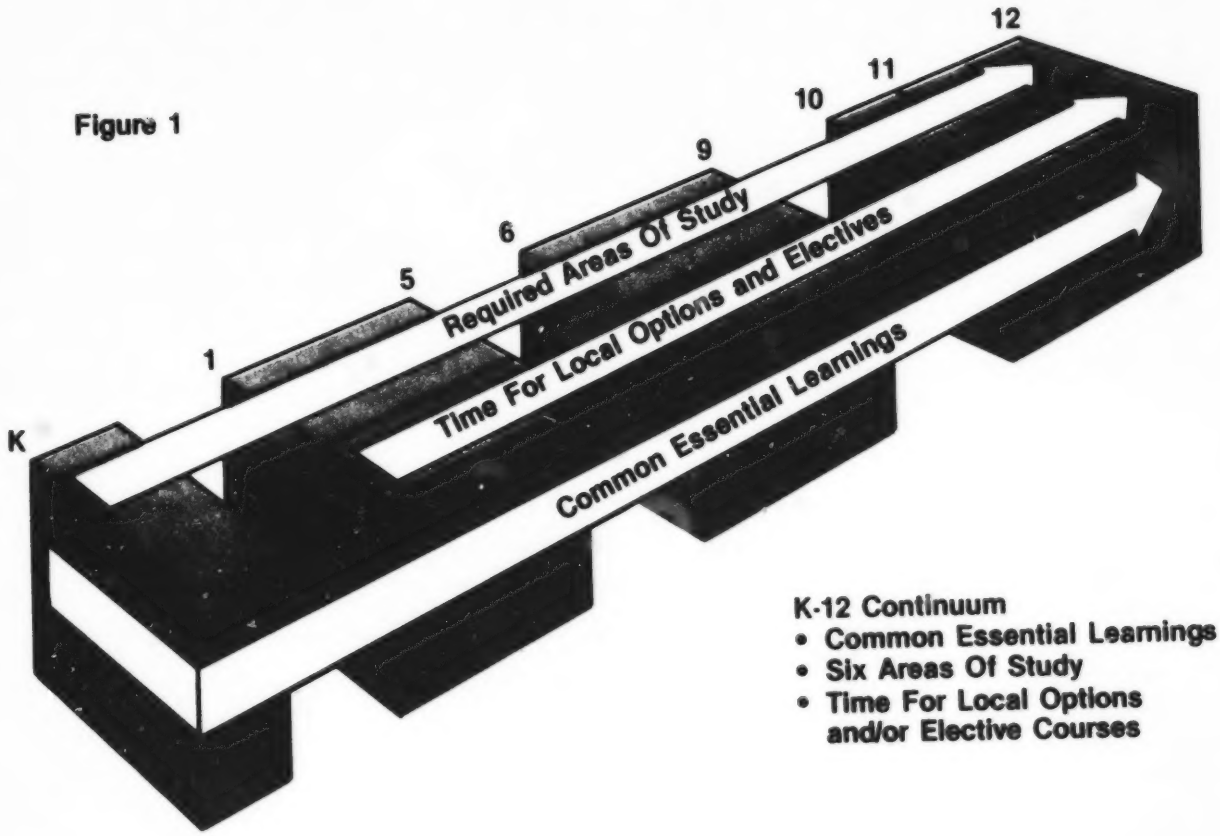
The core curriculum is developmental in nature and compulsory for all students from kindergarten through grade 12. However, there are variations at both ends of the continuum. In the kindergarten program the common essential learnings are present, but the required areas of study are an integrated foundation for future study rather than specific areas of study. And in grades 11 and 12, credit for the required areas of study can be acquired in either of the two years, thus leaving more time than in other grades for students to choose elective courses. In general, time spent on the required areas of study decreases as the student moves through the continuum.

In order for a curriculum to be appropriate for all students, some mechanism for adaptation must be included. For this reason, each of the required areas of study contains an adaptive component. This component allows time for local adaptation of the curriculum. The time might be used for independent study, reinforcement of learnings, enrichment, local units of study, or other activities designed to meet the needs of the students.

Figure 1 provides a visual display of the K-12 continuum, including common essential learnings, required areas of study, and time for local options and/or elective courses.

Core curriculum, then, comprises learnings necessary for all students. Two kinds of learnings are woven together in the core curriculum: common essential learnings, and learnings from required areas of study. This curriculum is intended to provide all students in the province with an education that will serve them no matter what their post-secondary options might be.

Figure 1



K-12 Continuum
- Common Essential Learnings
- Six Areas Of Study
- Time For Local Options and/or Elective Courses

Preface

In November of 1981, the 23 member Curriculum and Instruction Review Committee was formed. The Committee was instructed to complete a review of education in Saskatchewan and make recommendations for future actions. In December of 1983, the Committee presented its final report, entitled *Directions*, to the Minister of Education.

The Curriculum and Instruction Review Committee recommended that the Minister initiate development of program policy including the adoption of a core curriculum for Saskatchewan schools. Although the details of such a curriculum were not specified in *Directions*, guidelines for program policy development were provided through the goals of education and through a kindergarten to grade 12 policy framework.

The goals of education were developed to update the foundation for education in Saskatchewan. Changes in society and technology have forced a rethinking of what is "basic" in education, and the new goals were designed to reflect a concern with the future. The Curriculum and Instruction Review Committee saw the goals as essential to the formulation of program policy.

The kindergarten to grade 12 program policy framework developed by the Curriculum and Instruction Review Committee includes the following guidelines:

1. Core curriculum should be developed on a continuum from kindergarten through grade 12 to facilitate continuous student growth.
2. Core curriculum should include "expanded" basic skills, essential learnings, life skills, and subject-specific content.
3. Core curriculum should include six areas of study: language arts, mathematics, aesthetic education, physical education, social studies, and science.
4. Health and computer literacy, although not part of the K-12 continuum, should be compulsory courses of study.
5. The core curriculum should be sufficiently flexible to meet the individual needs of all students.
6. The amount of time spent on the core curriculum should diminish as students move through the system.

To get the reactions of various educational organizations in the province, the Minister of Education hosted a symposium in June of 1984. Those present reached consensus on the goals of education and supported further exploration of the concept of a core curriculum. As a result, the new goals of education were released in the fall of 1984, and the Core Curriculum Policy Advisory Committee was established. This report summarizes that committee's deliberations from January to September, 1985.

The Core Curriculum Policy Advisory Committee: Foundations

Terms of Reference

The 24-member Core Curriculum Policy Advisory Committee was formed with representation from educational organizations and Ministerial advisory committees. The tasks of the Committee, as outlined by the Minister of Education, were divided into two areas: (a) kindergarten to grade 12 program policy, and (b) curriculum design. The following is a description of these terms of reference.

Policy Development Tasks

1. Identify and clarify policy issues directly related to core curriculum.
2. Provide recommendations and/or directional statements about policy issues as they relate to the core curriculum. Areas identified as possible topics of discussion are balance of required and elective courses, alternative programs, instruction, local course development, and distance education.

Design Tasks

1. Provide a clear definition for the disciplinary nature of the K-12 core curriculum including its scope, foundation, structure, and organization.
2. Clarify the scope of essential learnings that should be provided for by the core curriculum with some direction for the balance that should exist between applied life skills and academic knowledge.
3. Establish criteria and guidelines to be used in making future decisions about core curriculum such as the selection of content and the sequencing of areas.

Above all, the Committee was to guide program policy development, thus giving direction to curriculum development. Thorough examination of curriculum content will occur in the future during a research and development phase. ***The policy proposals put forward by this Committee, then, are intended to achieve consistency in program development, to provide guidelines for educational standards, and to ensure that adequate decision-making is encouraged at the local level.***

Basic Assumptions

Before moving to the tasks outlined in the frame of reference, Committee members decided to examine a number of philosophical issues and affirm a common base. Commonly agreed upon beliefs were seen as essential in order that members could act as a cohesive group.

Issues examined by the Committee fall into four categories: the purpose of education, levels of decision-making, children and teachers, and curriculum. A brief explanation of each follows.

The Purpose of Education

The Core Curriculum Policy Advisory Committee saw schooling, first and foremost, as the means of achieving the goals of education. The school, then, should strive to accomplish the following:

1. Facilitate students' acquisition of attitudes, knowledge, and skills.
2. Prepare students for their futures, including independent living, family life, post-secondary education, and direct employment.
3. Assist students in achieving their full potential through meeting individual and group needs.
4. Help students understand their own culture and the culture of others in the province and in the world.

Levels of Decision-making

The Core Curriculum Policy Advisory Committee was committed to decision-making at four levels: the Minister and the Department of Education, the school division, the school, and the classroom. The curriculum, then, should be designed to facilitate decision-making at each of these levels.

Minister and Department of Education.

The Minister and the Department of Education have the primary responsibility for curriculum development in Saskatchewan. Decisions made at this level ensure that students are exposed to a consistent quality of education throughout the province. A collaborative approach to decision-making about curriculum is necessary in order that the interests of all student populations in the province are reflected.

School Division.

Decision-making at the school division level focuses on the program to be offered, including such aspects as electives, local requirements, support services, and alternative programs. Decisions about these aspects can be made only at this level if the program is to reflect the needs of the local student population. Parents and community are best involved at this level through the board of education.

School Level.

At the school level, decisions are made about how the program can be adapted to suit the student population and the school's resources. Parents and community can be involved in decision-making at this level through boards of trustees, local advisory committees, and direct contact with principals and teachers. Teachers play a prominent role at this level through involvement in discussion and program planning.

Classroom Level.

Within the classroom, the teacher makes decisions about material selection and use, classroom organization, the learning environment, instructional strategies, and assessment of student progress. Parents can contribute at this level through consultation with teachers.

Students can have input at this level as well if they are encouraged to make decisions about their own education. Young students can begin by making decisions about learning activities in the classroom, and gradually learn to make decisions about courses and programs. As they progress through school, students can learn to set personal goals and work to meet them.

Students and Teachers

Two key variables in the learning process are the student and the teacher. Each student brings unique interests, needs, and abilities to the classroom, where the teacher's role is to provide a rich learning environment and appropriate instruction. Because the needs of both students and teachers influence curriculum development and design, the Committee chose to make statements about each.

Students.

Students in any given classroom will differ significantly from one another. Because children learn best when content and instruction are matched with levels of development, each student should receive an education which meets his or her individual needs.

Although students differ from one another, they are alike in many ways. It is important to bear this in mind when planning for individual needs so that children do not become segregated from one another as a matter of course. All children want to learn and are capable of learning. All children need a supportive environment. And if a curriculum is planned developmentally all children can be provided with appropriate instruction.

Teachers.

The teacher adapts the curriculum to meet the needs of students and subsequently provides appropriate learning experiences and a supportive learning environment. Decisions made at the classroom level are the decisions which most affect a child's experience in school.

Curriculum, then, must be developed to facilitate teacher decision-making. In addition, preservice and inservice education should be provided on individualization, the understanding of exceptionalities in children, evaluation strategies, and other important areas of program delivery. Classroom teachers should also have access to specially trained teachers and/or consultants to help them provide opportunities for children with special needs. In short, teachers should have access to resources and services that will help them adapt curriculum to meet the needs of their students.

Curriculum

While attempting to define core curriculum, the Committee found it first had to define curriculum. ***The Committee described curriculum as the intended learnings for which the school accepts responsibility.*** These learnings are taught and reinforced through the school program, that is, the formal and informal experiences that are planned or sponsored by the school.

The intended learnings are formalized in some type of curriculum guide, whether it be a provincial guide or a locally prepared guide. Although a guide alone cannot ensure acquisition of the intended learnings, it should include suggestions for instructional strategies and the learning environment which best support the content. Curriculum content should include the knowledge, understandings, skills, attitudes, and appreciations that are intended to influence student growth.

Discussion on the above topics provided the base from which the Committee approached its terms of reference. Although the proposals describing core curriculum represent the major portion of the Committee's work, these early discussions were seen as a significant part of the Committee's deliberations.

The Two Components of Core Curriculum

The Curriculum and Instruction Review Committee recognized the need for a core of learnings basic to a K-12 education in the 1980's and beyond. It was thought that a core curriculum comprising these learnings could provide a general education containing the essential learnings appropriate to each developmental level. With this in mind, the Core Curriculum Policy Advisory Committee developed the following definition of core curriculum: ***core curriculum comprises learnings necessary for all students.*** The learnings are divided into two categories: 1. common essential learnings, and 2. learnings from required areas of study.

Common Essential Learnings

Proposal: Six categories of common essential learnings should be incorporated into all courses of study offered in Saskatchewan schools.

Background

To determine what might be included in a core program, the Committee reviewed a vast amount of information from recent studies, research, and educational settings. The literature review fell under four headings: preparation for university, for vocational training and work, for the future, and for independent living.

The Committee then compiled a list of skills, attitudes, values, and cognitive abilities which members considered central to meeting the goals of education through a core program. The term "learnings" was adopted to reflect the diversity of the list. Refinement of the essential learnings common to all areas of study resulted in the identification of categories: communication skills, creative and critical thinking, independent learning skills, numerical and quantitative literacy, personal and social skills and values, and technological literacy.

The purpose of the common essential learnings is to provide students with generic skills, processes, values, and cognitive abilities which can be applied in a wide range of settings and situations. They are intended to be relevant for each student, no matter what the student chooses to do beyond secondary school.

If the curriculum is planned according to the developmental levels of children, the essential learnings can be the starting point for evaluating courses, designing new courses, identifying programs, and identifying instructional strategies. As such, ***the common essential learnings describe the overriding purpose, spirit, and intent of the core curriculum.***

These common essential learnings will pervade each student's experience in school, from kindergarten to grade 12. Each area of study, as well as extracurricular activities and special programs, can contribute to a student's acquisition of the essential learnings.

In greater detail, the common essential learnings are described below. Brief examples are provided to illustrate Committee thinking about what might fall within the categories. A more complete listing of examples considered by the Committee can be found in Appendix A. However, additional work will be required to ensure that these learnings are sufficiently comprehensive to meet the school's obligations for attainment of the goals of education.

Communication Skills.

A primary purpose of education is to develop and enhance communication skills or abilities. These skills represent, in part, the speaking, reading, writing, and listening components of language arts programs. They also include viewing and other forms of non-verbal communication found, for example, in the fine arts.

Communication skills will remain primarily the responsibility of the language arts area. However, because they are applicable to all courses and programs in the school, it is proposed that all teachers share the responsibility for practical application and reinforcement.

Examples of communication skills falling within the common essential learnings include the following:

1. Ability to engage in a variety of experiences with language: for example, listening, viewing, expressing, creating, understanding, responding, and explaining.
2. Awareness of the interrelationship between communication skills and creative and critical thinking.
3. Ability to communicate experiences in a variety of settings.

Critical and Creative Thinking.

All courses of study attempt to maximize critical and creative thinking, problem-solving, reasoning, and decision-making capabilities in students. No individual area of study can be solely responsible for developing these abilities. Rather, they must be taught and reinforced through all areas of study. This will enable students to appreciate the approaches to creativity, problem-solving, and reasoning distinctive to each area of study.

Examples of critical and creative thinking skills falling within the common essential learnings include the following:

1. Realization and appreciation of the complexity of critical and creative thinking.
2. Ability to generate and consider alternatives and propose new or innovative ideas.
3. Ability to address problems in a responsible, effective, and efficient manner by identifying the problem, analyzing causes of the problem, judging sources of information, generating alternate solutions, predicting consequences of possible alternate solutions, and making decisions.

Independent Learning.

It is essential for schools to reduce students' dependence on schools and teachers for their learning and increase students' capability to set and meet their own learning goals. Post-secondary institutions and employers have expressed this need. In addition, self-directed learning skills are called for in future-oriented literature, the rationale being that changes in job markets and life styles require people to learn new skills after their formal education is complete.

Examples of independent learning skills falling within the common essential learnings include the following:

1. Realization and appreciation that in-school learning is one component of growth and development in life.
2. Ability to search out required information.
3. Ability to identify the need for and develop skills in evaluating personal progress in learning.

Numerical and Quantitative Literacy.

Like communication skills, many aspects of numerical and quantitative literacy are unique to an area of study, in this case mathematics. However, many aspects such as quantitative estimation, calculation, statistical analysis, and other forms of numerical literacy are a part of all areas of study. These common essential learnings, then, can be taught and reinforced through application in a broad range of problem-solving contexts.

Examples of numerical and quantitative skills falling within the common essential learnings include the following:

1. Recognition and appreciation of the need and value of understanding the world quantitatively.
2. Ability to estimate and approximate in order to evaluate the reasonableness of results.
3. Ability to read information from charts, graphs, and tables and apply this information to arrive at interpretations and conclusions.

Personal and Social Skills and Values.

The school is a social institution like the home, the church, and the community. As such, the school must take partial responsibility for developing children's personal and social skills and values. Saskatchewan's goals of education reflect a concern for personal and social skills and values, and these can be incorporated into all areas of study.

Examples of personal and social skills and values falling within these common essential learnings include the following:

1. Achievement of self-awareness and independence.
2. Ability to work effectively by oneself and co-operatively as a member of a team.
3. Acceptance of individual responsibility for behaviors in building and maintaining relationships.

Technological Literacy.

Present day culture is driven in large measure by our technological growth and development. A technologically literate population is essential not only to economic and industrial development but also to preservation of the environment and attainment of human purposes. To this end, it is important that technological literacy be developed as a part of all areas of study.

> ***Examples*** of technological skills falling within the common essential learnings include the following:
>
> 1. Understanding of how society influences science and technology as well as how science and technology influence society.
> 2. Recognition of the limitations as well as the usefulness of science and technology in advancing human welfare.
> 3. Awareness of how computers work and of when and how computers may be used in the academic disciplines, various fields of work, and daily life.

The common essential learnings described in this proposal represent a starting point in planning how such learnings might be included in the development of curriculum. The learnings must be sequenced developmentally where possible, and expert opinion must be sought on the relevance and appropriateness of the learnings for different age groups of children. In addition, work will be required at the school level to explore the broad range of ways in which the learnings might be attained through the school program.

Required Areas of Study

Proposal: Required areas of study should form the framework of the Saskatchewan curriculum. These areas represent the basic "ways of knowing" and experiencing the world. They should provide learnings unique to each area, and should serve as vehicles for attaining the common essential learnings.

Background

The required areas of study proposed for the core curriculum are language arts, mathematics, aesthetic education, health education, physical education, science, and social studies. These areas of study continue to serve as an organizing focus for curriculum planning. They provide a vehicle through which the common essential learnings can be taught and learned. They also bring to the curriculum the content of the disciplines and learnings specific to each area of study.

The natural scientist, the social scientist, the historian, the mathematician and the artist have unique ways of viewing events, organizing information, and adding to and structuring knowledge. Each area of study, then, provides a unique "way of knowing.

The Core Curriculum Policy Advisory Committee did not develop content for the required areas of study. It did, however, assert that content should be relevant, applicable, and developed for a general student audience.

In general, the Committee was guided by the framework provided in *Directions*. However, the areas of health education and physical education were treated somewhat differently. Where *Directions* stated that health education should be compulsory from grades 1 to 6 and physical education part of the K-12 continuum, the Core Curriculum Policy Advisory Committee saw health education and physical education as equally important.

Through its examination of the areas of study, the Committee was able to conclude that many of its objectives for a core curriculum are compatible with current movements and innovations within the areas of study. There is currently an emphasis on relevance and appropriateness of learnings, a focus on general aspects of the areas of study which are appropriate for all students, and a movement toward integration and recognition of common elements.

What follows is a brief report of the Committee's findings on recent innovations or developments in the required areas of study.

Language Arts

Currently, the area of language arts tends to focus on language processes and communication skills. Topics studied through language arts include the following: developmental reading, listening and speaking, writing, knowledge about literature, knowledge about language, and knowledge about media. It is generally accepted that language learning follows developmental stages, and this is reflected in the presence of programs developed according to these stages. There is currently much discussion about the importance of language learning in all areas of study, and the relationship between language and thinking.

Mathematics

Mathematics programs also tend to be developmental in nature, with general concepts introduced in lower grades but not studied formally until the upper grades. There is a major focus on problem-solving. Areas studied include arithmetic, geometry, algebra, trigonometry, analytic geometry, graphing and statistics, and applications. There appears to be a current movement toward more applicability of mathematics to "real life" situations. In addition, computer technology and the calculator are influencing the teaching of mathematics.

Aesthetic Education

Where the emphasis used to be on production or performance (of long term benefit to a limited number of students), the new focus is on the benefits of aesthetic education for every child. There is a major emphasis on "literacy", or acquiring the language of the arts, and on educating the senses to take in information and respond to the environment. Generally, there is a movement toward exploring all aspects of the arts through education (for example, fine arts, applied arts, culture, heritage, and the role of the arts consumer) rather than focusing on a narrow segment.

Health Education/Physical Education

Although health education and physical education remain discrete subject areas, there is a growing awareness of the objectives they hold in common. Both are concerned with quality of life and encouraging students to maintain a physically and psychologically healthy life style beyond school. Each of the two areas, however, makes unique contributions. Health education focuses on growth and change and helps the individual see himself or herself within the contexts of the classroom, the school, and the community. Physical education, on the other hand, provides opportunities for active participation. Both aim to develop an individual who enthusiastically selects and maintains an active, healthy life-style.

Science

Science education is based on the premise that each member of society needs a knowledge of the methodology of science and its relevance to the modern world if he or she is to understand technology and the effects of human actions on the environment. Process skills and knowledge are not separated in science. Science is a search for understanding through a cycle of experimentation and verification. Current programs tend to emphasize applications and the relationship between science and society.

Social Studies

Social studies programs currently tend to focus on the needs of students in a changing world. There is movement toward having students study their own cultural heritage and history as a valid and important source of information. The contributions of discrete disciplines are generally recognized at the secondary level, but disciplines such as history are being placed in a broader context. Recent courses tend to be interdisciplinary in nature, conceptually based, and concerned with knowledge acquisition, skills development, and attitude development. An effort is being made to rid curriculum materials of sexist, racist, and ethnocentric attitudes and beliefs.

Summary

Many of the movements currently in evidence within the areas of study lend support to the Committee's proposals. Generally, curriculum developers are stressing relevance, highlighting the interrelatedness of disciplines, and placing areas of study within a broader context. These commonalities should enable subject area specialists and developers of the common essential learnings to work together on future development of a core curriculum in Saskatchewan.

Balance of Time in the School Program

The Core Curriculum Policy Advisory Committee discussed the issue of curriculum balance in the school program in order to propose policies related to the core curriculum. These questions focus on the division of time with regard to the required areas of study and the adaptation of programs to meet student needs. Determination of the amount of time to be devoted to required areas of study is important for curriculum developers who must make decisions about the content to be covered. Time is also an important consideration at the school level to ensure the program both satisfies provincial requirements and meets student needs.

The questions to be addressed in this chapter are as follows:

1. What should be the balance of time devoted to provincially required courses of study and to locally determined course offerings at the elementary, middle, and secondary levels?
2. What amount of time within each course of study should be reserved for local adaptation of the curriculum to meet the needs of students and community?
3. What amount of time within the required program should be devoted to each of the provincially required areas of study at the elementary, middle, and secondary levels: language arts, mathematics, aesthetic education, health education, physical education, science, and social studies?
4. What related policy areas must be addressed as core curriculum is developed?

Balance of Provincially Required and Locally Determined Courses of Study

Proposal: The following balance of time should be allocated to required and optional aspects of the school program at the elementary, middle, and secondary levels.

	Provincial Requirements	Locally Determined Course Offerings
Elementary	80%	20% *
Middle	70%	30%
Secondary	55%	45% **

*** It is emphasized that the option to offer locally selected courses at this level is up to the school division. The entire school day could be devoted to the required courses of study.**

**** These percentages refer to time needed to fulfill provincial requirements. Additional time is available in the school year for other credits.**

Rationale

Time allocations were dealt with by level. *Directions* provided the following guidelines: the elementary level includes kindergarten and grades 1 to 5; the middle level includes grades 6 to 9; the secondary level includes grades 10 to 12.

The program for elementary students should reflect the need to build a foundation for learning in later years. Time must be devoted to the development of skills and the acquisition of knowledge and attitudes needed to build that foundation. Currently, the suggested number of minutes to be spent on the required elementary program equals 100% of the school day, leaving no time for electives or for adapting and individualizing the curriculum. Time should be made available to respond to the needs of the individual learner through locally determined options.

During the middle years, students are continuing to develop and expand the knowledge, attitudes, and skills introduced earlier. In addition, the content areas begin to take on more emphasis in preparation for secondary school, and the amount of optional or elective time increases.

Secondary level students are preparing for personal, social, vocational, and academic pursuits after grade 12. They need the opportunity to develop both basic and higher level skills and to study in a broad range of subject areas. They also need time to specialize in areas that apply to their career and extended education paths. For these reasons, an adequate amount of time must be available for courses of study determined locally to meet student needs.

Time for locally determined options should increase as students move through the levels of schooling. Offerings will vary from school to school according to the resources available and the needs and interests of students and the community.

The proposal regarding program balance, then, reflects a commitment to meeting locally determined student and community needs. The proposal was also developed to ensure that the provincially required areas of study are dealt with adequately.

Adaptive Component

Proposal: The adaptive component designates time *within each course of study* to be reserved for adapting the curriculum to meet the needs of students.

It is proposed that 70% of the time in each course be devoted to the essential portion of the curriculum and 30% be reserved for the adaptive component.

Rationale

Both the Curriculum and Instruction Review Committee and the Core Curriculum Policy Advisory Committee emphasized the importance of meeting the unique needs of students. A core curriculum was seen as a means of providing a broad general education for all students within their range of abilities. However, in order to meet the variety of student needs, time is needed within the school day to enable schools and teachers to individualize instruction.

The classroom teacher is confronted with a time problem, especially at the elementary level. The curriculum is so full and the needs of students so diverse in every classroom that some mechanism is needed to build flexibility into the program.

Since students learn in a variety of ways and at different rates, time is needed within the school day to allow teachers to facilitate individualized instruction within the classroom.

The Committee, in drafting its proposal in this area, thought it important to encourage local decision-making to meet student needs. This proposal is intended to encourage teachers and boards to be innovative in adapting their programs.

The purpose of the adaptive component, then, is to allow time for adapting program at the classroom level. This time can be used for reinforcement, enrichment, and extension of the program within the classroom. This time could also be used for additional practical application of learning (additional problem-solving activities, for example) and for mastering essential skills and processes. The adaptive component can provide schools and school divisions with time to include topics or units of interest that will meet local goals or student needs within an area of study.

It will be up to boards and teachers to determine how the adaptive component will be utilized at each level. Department curriculum guides, however, should suggest activities that can be used to enrich and extend the curriculum or to reinforce elements of the essential learnings in each area.

Balance of Time within the Six Areas of Study

As a way of ensuring that the goals of education are achieved by all students, the Core Curriculum Policy Advisory Committee acknowledged the importance of the required areas of study. The Committee found it necessary to determine time allotments for each area of study so the school day would not be expected to include more curriculum content than could be realistically accommodated. The time allotments also serve as a guideline for curriculum developers in determining the range and depth of knowledge, skills, and attitudes to be taught in each area.

The Committee proposals are designed to ensure a level of literacy that is independent of specific occupational choices but broad enough to develop

the capabilities necessary for contemporary living and a wide variety of occupational and post-secondary options. For that reason, the required areas of study are to be developed on a K-12 continuum and will appear at all levels of the curriculum in some form.

The task of assigning time to each area was approached by the Committee in a number of ways. Trends across Canada were of interest to committee members, but Saskatchewan tradition played a larger role when it came to decision-making. While some time changes were made in order to provide room for all areas of study, the current emphasis in most areas was maintained (Appendix B).

What follows is a description of the Committee's proposals for time allocations within the areas of study. The proposals are organized in four levels: kindergarten, grades 1 to 5, grades 6 to 9, and grades 10 to 12.

Elementary Level: Kindergarten

Proposal: The kindergarten program should be seen as the initial step toward acquisition of the common essential learnings.

At the kindergarten level, children require activities which stimulate mental, physical, and social development. Those activities must be designed to accommodate differing rates of growth and development. The common essential learnings are compatible with the needs and characteristics of young children. The kindergarten program, then, can include these learnings.

It is also appropriate to lay the foundations for the required areas of study in the kindergarten program. The fundamental understandings and skills aimed at developing a foundation for later learning in specific areas of study should be integrated into age-appropriate activities. Figure 2 displays the Committee's proposal for the kindergarten program.

Kindergarten

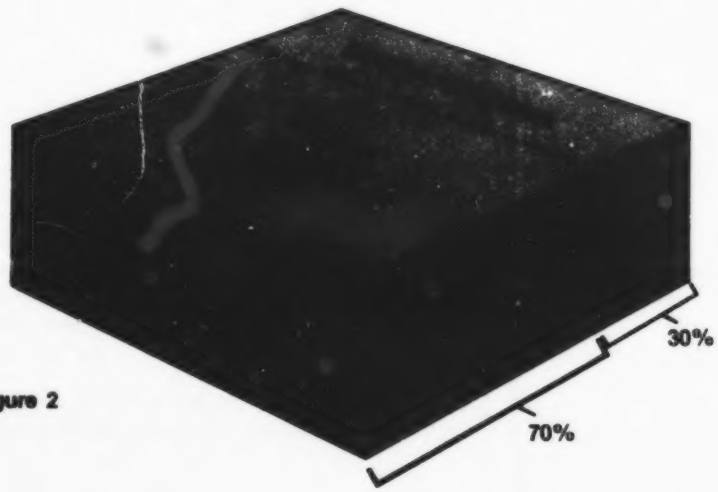


Figure 2

Elementary Level: Grades 1-5

Proposal: The following allocation of time should be considered for the required areas of study in grades 1 through 5.

Area of Study	Minutes per Week
Language Arts	**350**
Mathematics	**210**
Aesthetic Education	**160**
Physical Education/Health Education	**160**
Social Studies	**160**
Science	**160**
Time available for locally determined options	**300**
Total time available	**1500**

The time allocation currently recommended for the elementary program allows no time for locally determined options. In order to free a portion of time for these options, the Committee redistributed the time among the required areas. Figure 3 displays the Committee's proposed program for grades 1 to 5.

It should be noted that these recommended times may vary from grade to grade and emphasis may shift from one area to another as the child progresses. The program, then, may emphasize different areas in grade 1, for example, than grade 5.

Elementary Level
(Grades 1-5)

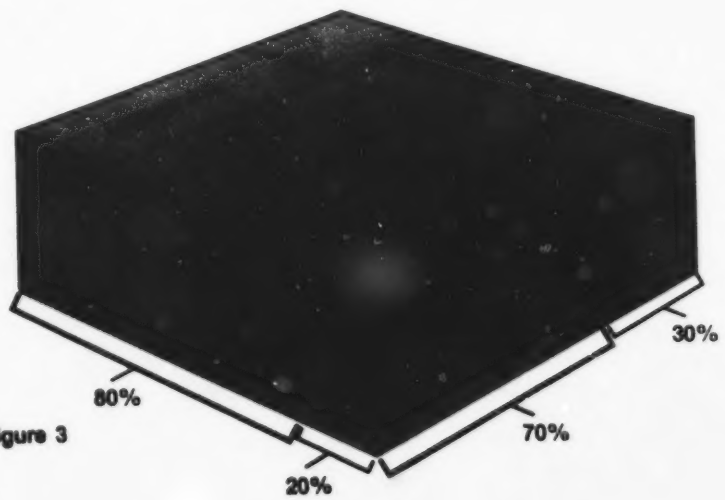


Figure 3

The time for locally determined options can be used in a variety of ways. A school or school division could choose to offer modules or courses which students would elect to take; students could choose, for example, between creative writing and drama. The time could be used for local requirements such as religious studies or a second language, or a school or school division could opt to use the time for further studies in a required area such as language arts. The time is intended to provide an additional means of meeting local needs.

In grades 1 to 5, mathematics and language arts continue to be foundation areas for future learning. Although the amount of time spent on language arts appears to decrease in relation to the present time allocation, many aspects of language arts will be reinforced or applied in other areas of study through the common essential learnings.

The music and art requirements are replaced by aesthetic education which interrelates the arts areas. Aesthetic education at this level is viewed as a foundation area and is seen as a way to educate the child's senses to take in information, respond to the environment, and apply concepts.

The Curriculum and Instruction Review Committee added health education as a compulsory course to the program requirements at the elementary level. The Core Curriculum Policy Advisory Committee saw health education and physical education as complementary areas of learning. It was determined that they should both appear in the required areas of study and should share the time assigned to them in the curriculum. This time could be used in a variety of ways: an integrated course, separate courses, and modules.

Science and social studies remain an important part of the curriculum and continue to receive emphasis.

The Committee would like to encourage an interdisciplinary approach tc curriculum development and instruction at the elementary level. Many elementary teachers already integrate some areas within their classrooms, and future curriculum documents can encourage this by highlighting concepts that cross areas of study. The common essential learnings provide a means of encouraging this approach to curriculum planning and instruction.

Most children at the early elementary level require a program similar to the kindergarten program, that is, one that encourages discovering, interacting with the environment, and experiencing. The elementary program in the early grades can be organized around the common essential learnings, using the required areas of study as the content vehicles for developing the skills, processes, and attitudes necessary for future learning and development of a positive attitude toward school. Initial orientation to subject areas might, in this situation, begin at the upper elementary grades.

Middle Level

Proposal: The following allocation of time should be considered for the required areas of study at the middle level (grades 6, 7, 8, and 9*):

Areas of Study	Minutes per Week
Language Arts	230
Mathematics	200
Aesthetic Education	155
Physical Education/Health	155
Social Studies	155
Science	155
Time for locally determined courses**	450
Time available	1500

***Grade 9 is considered a transitional year and, as such, decisions about the appropriate program must be made at the local level.**
****Locally determined options can include local requirements and elective courses.**

The program during middle years continues to emphasize language arts and mathematics as foundation areas. As in the elementary program, aesthetic education is intended to integrate the arts, and health education and physical education share one time allocation. Figure 4 displays the Committee's proposal for the middle level.

Middle Level
(Grades 6-9)

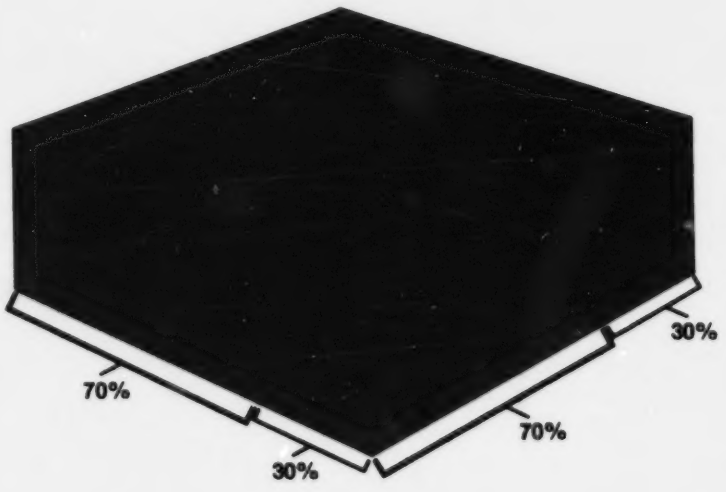


Figure 4

The program at this level should be designed to respond to the physical, intellectual, and social changes that students are experiencing at this time in their lives. As does the elementary level, the middle level calls for a curriculum that focuses on the students, and helps them make the transition from concrete to abstract learning. Basic skills are expanded and refined and the orientation to subject areas increases in importance as the student moves toward the secondary level. Curriculum at the middle level should clearly indicate themes and concepts that cross curriculum areas in order to encourage innovative and integrative approaches to instruction in the classroom.

It is expected that each school division will want to decide how much time they will devote to optional or elective areas at each of the grades at the middle level. However, as the student moves from grade 6 to grade 9, there should be an increase in the amount of time given to elective courses. Learning opportunities in areas like industrial arts, home economics, and computer literacy along with locally developed options will provide a rich and varied set of experiences for children at the middle level.

Secondary Level

Proposal: The Committee proposes that the following credit* allotment should be considered for grades 10, 11, and 12:

Grades	10	11	12
Required Courses of Study	1 Language Arts** 1 Mathematics 1 Aesthetic Education 1 Health Education/ Physical Education 1 Science 1 Social Studies	1 Language** Arts	1 Language** Arts
Total	6 credits	2 credits	
Elective Courses From Specified Areas of Study		1 Mathematics area 1 Aesthetic Ed. or Fine Arts area 1 Health Ed./ Physical Ed. area 1 Science area 1 Social Studies area	
Total		5 credits	
Unspecified Elective Courses	Minimum of 2	Minimum of 9	
Grade Standing	Minimum of 8 Credits	Minimum of 16 Credits***	

*1 credit = 100 hours of classroom instruction
**In designated schools, language arts courses may be offered in the language of instruction.
***It is proposed that a minimum of 3 credits be taken in the areas of applied or practical arts. This requirement can be met through either of the two categories of elective courses.

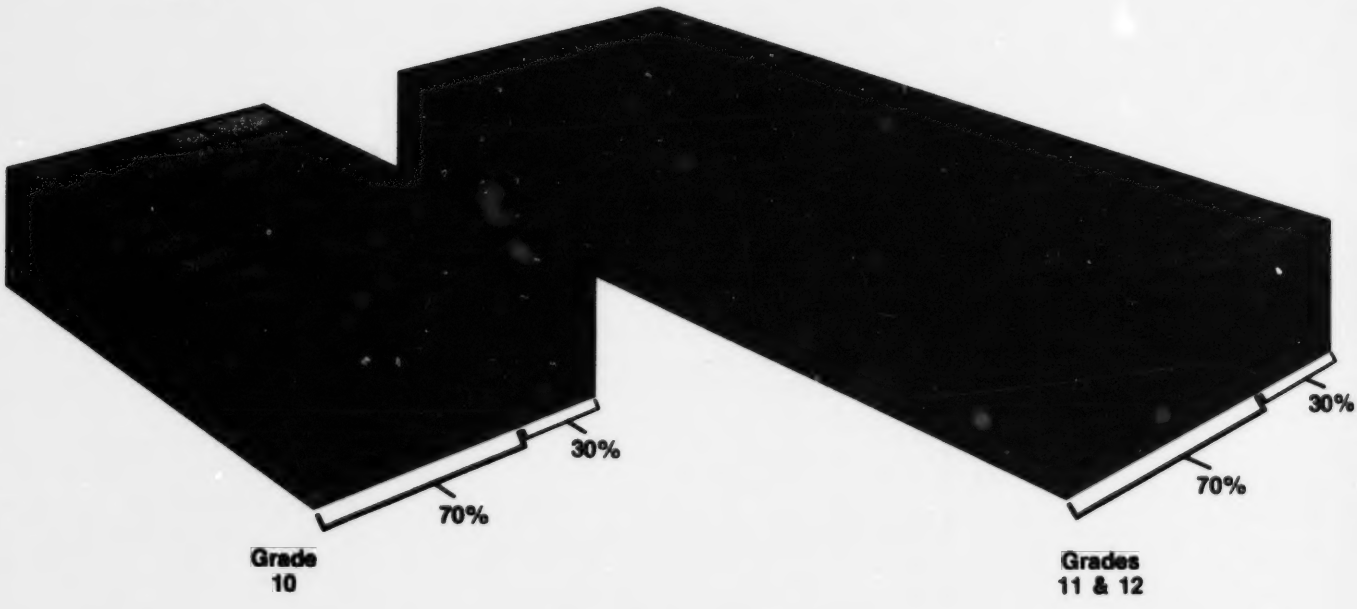
Overview

Figure 5 displays the Committee's proposals for grades 10 to 12.

At the grade 10 level, students must take the required courses in language arts, mathematics, aesthetic education, health education/physical education, science, and social studies. They must also take a minimum of two electives from any area, thus accumulating a total of eight credits.

At the grade 11 and 12 levels, students must accumulate a total of at least 16 credits over the two years. Requirements can be taken in either of the two years, depending on school offerings and student choice. Students must take two required courses in language arts. They must also take five courses, one from each of the specified areas of study: mathematics, aesthetic education, health education/physical education, science, and social studies. These five courses may be either general or specialized. Students must also take a minimum of nine electives. Three elective courses must be from the areas of applied or practical arts. These courses can fulfill requirements in specified areas of study or in the unspecified elective area.

Figure 5



Secondary Level
(Grades 10-12)

The secondary program is intended to provide students with the attitudes, skills, and knowledge necessary for both post-secondary education and employment. In keeping with the principle that time spent on required courses should decrease as students progress through the system, the secondary program includes a significant amount of student choice. This is intended to reflect a commitment to independent learning and the belief that students should explore diverse areas of study.

Three types of courses, then, are described in the secondary program: required courses of study, elective courses from specified areas of study, and unspecified electives. Courses from all three are needed in grades 11 and 12 to fulfill graduation requirements. Fulfilling graduation requirements takes 80% of the time available during the school year. This leaves 20% of the time for the school and/or the student to use for special programs (such as band), other local requirements (such as Christian Ethics), or other elective courses of the student's choice.

Required Courses of Study

Courses from the required areas of study are intended to provide students with a general education emphasizing the essential knowledge, skills, principles, and processes unique to each of the areas of study. These courses should also provide the foundation for specialized courses that may be taken in those areas. It is proposed that the required courses be general in nature and follow the continuum begun in the elementary grades and continued in the middle years.

The Committee proposes that general education courses be required until the end of grade 10, with general courses in language arts required in grades 11 and 12. General courses for the other required areas in grade 11 and 12 should be available for those schools which choose to offer them. It is intended that general courses be designed as one means of meeting university entrance requirements. It is a local decision, then, whether to offer general or specialized courses (or both) at the grade 11 and 12 level.

While specific decisions about each curriculum area will be made by the curriculum committee and curriculum developers responsible for those areas, the following guidelines are given regarding general courses of study:

1. The common essential learnings are equally important at all levels and should be provided for in all courses of study, both required and elective.
2. Language arts courses, to the end of grade 12, should be communications based and contain a literature component. A variety of elective courses should also be made available; these could include such courses as Canadian literature, creative writing, and journalism.
3. Areas of study should include substantial Canadian content.
4. Materials and activities should have relevance to today's living and life outside of high schools. The social studies area, for example, should include consumer education, business economics, political processes, duties of citizenship, and Canadian and Saskatchewan history.

5. The curriculum should include activities that invite students to apply their learning.
6. Each area of study should provide an awareness of the important concepts and processes unique to that area.
7. The general courses over the K-12 continuum should provide opportunities for students to develop in each of the areas outlined in the goals of education.
8. General courses should include the basic requirements for the specialized electives available in grades 11 and 12. Grade 10, 11, and 12 general courses should include the basic requirements for entrance to post-secondary institutions.

Elective Courses from Specified Areas of Study

These elective courses must be chosen from within a specified area of study. They may be general courses or specialized courses, depending on which are offered by the local school. They may be also taken through the Provincial Correspondence School or through other available distance education technology.

Students can fulfill the requirements in this category through a variety of elective courses, including both academic and applied or practical. For example, logic could fulfill a mathematics requirement, biology a science requirement, drama set design a fine arts requirement, and Indian/Metis studies a social studies requirement. Many courses of study and school activities can give students an opportunity to acquire and apply essential learnings, and service courses or certain extra-curricular activities could play an important role in the school program.

Unspecified Electives

Unspecified electives are those courses which are open to student and/or school division choice. It is proposed that students be required to take at least two electives in grade 10 and at least nine electives in grades 11 and 12. These electives can include academic courses such as algebra and physics, and applied or practical courses such as business education, home economics, consumer mathematics or journalism. Independent study courses and work study programs could also qualify as unspecified electives. Schools should be encouraged to make use of community resources in planning options for electives.

Certificates of Completion

Currently, the only record available to students is a transcript of marks. Transcripts are issued by the Department of Education at the end of grades 10, 11, and 12, and list standing in each course completed.

The Committee would like to see a descriptive component added to these transcripts. Special projects, modules, and work programs for example, would then be recorded, and employers and post-secondary institutions would gain a better understanding of a student's accomplishments.

These descriptive transcripts should be issued to all students at the end of grades 10 and 12. The end of grade 10 is seen as completion of one part of a secondary education, and students leaving school at this point should be given some recognition for their work thus far. At the same time, students

electing to leave school early should be encouraged to complete the rest of the secondary program through re-entry to the local high school, enrolment at a community college, or enrolment through the Provincial Correspondence School program. It is hoped that the grade 10 certificate or transcript will help eliminate the label of "drop-out".

Students who wish to obtain transcripts and descriptions of courses taken between grade 10 and grade 12 completion may still do so by contacting the Department of Education. Students who complete recognized alternative or special education programs are also entitled to a certificate or transcript that describes their program and specifies the amount of time spent in that program.

Related Program Policy

Many policy areas are related to the core curriculum proposals. Three proposals in particular are put forward for discussion and clarification. These proposals are in the areas of prerequisite requirements, evaluation, and alternative programs.

Prerequisite Requirements

Proposal: Prerequisite requirements for courses of study should be eliminated wherever possible.

At the present time many of the Division IV courses are part of a prerequisite sequence. In some cases, however, the content of courses does not provide a clear rationale for requiring prerequisite levels. Unless the content itself demands such a sequencing of skills or information, the prerequisite requirements should be eliminated since they restrict flexibility in course scheduling, especially in the smaller high school.

Unnecessary prerequisites also make it difficult to meet the individual needs of students. Those students who need remedial or reinforcement work in an area cannot always take concurrent courses. Minimizing prerequisites will allow those students to do reinforcement work and still progress toward grade 12 completion.

It is also important to recognize that even where prerequisites are required, a student may have enough skills to take an advanced course without spending time in an introductory course. Policy guidelines should be developed for determining such an advanced standing.

Evaluation

Proposal: In *Directions*, action recommendation #9 deals with evaluation. This recommendation should be implemented immediately so that evaluation is provided for in the development of the core communication.

Action recommendation #9 states the following:

An interagency reference committee should be established to gather information, identify issues and plan for future action. Areas to be addressed . . . are:

- types of evaluation that aid teachers in making decisions about student achievement and needs
- teacher accreditation policies
- program evaluation procedures at all levels
- indicators of the educational system's ongoing effectiveness.

Directions, p.48

It is imperative that these issues be addressed immediately. Strategies for evaluating the effects of new programs on student learning will play an important role in determining the effectiveness of a new core curriculum.

New curriculum materials must include suggested strategies for determining student success in the common essential learnings. Many of the processes, skills, and attitudes suggested by the common essential learnings cannot be evaluated with paper and pencil tests. Teachers will need assistance and support in developing strategies appropriate for the new curriculum.

Alternative Programs

Proposal: Policy should be drafted to provide guidelines for recognizing and approving alternative programs within Saskatchewan school systems.

It is recognized that all students have the right to an education that is suitable to their needs and abilities. In meeting those needs, some students will require programs which enable them to complete 12 years of schooling by different routes. Provincial policy guidelines are needed to clearly define both the type of approval needed for such programs, and the curriculum requirements for such programs. These guidelines should ensure that the common essential learnings are an integral part of any alternative programs.

When students complete a provincially approved alternative program, certificates should be issued describing the type of education students have received and the amount of time spent in the program.

Chapter Four

Guidelines for Curriculum Development

Background

Curriculum development processes have benefited from change and improvement over a number of years. With the introduction of the curriculum development model recommended in "Directions", the processes and products related to curriculum development will be further refined.

The curriculum development cycle contains four distinct phases. In the program evaluation phase, existing courses of study are assessed with a view to improving the design or content of the courses. The second phase, program design, develops the courses of study as recommended in the program evaluation phase. Next, the program implementation phase supports the educational community in incorporating the new courses of study into the school program. Finally, the program maintenance phase provides the ongoing resources to support, monitor, and update the courses of study. This last phase serves as a source of continuous evaluation, thus completing the cycle.

The design phase of the curriculum development model would be most directly affected by the core curriculum proposed in this report. To facilitate implementation of the core curriculum, guidelines for curriculum developers are proposed in this chapter.

It should be noted here that instruction in Saskatchewan schools can take place in English, French, or other designated languages. The language of the designated school can be used in the acquisition of all common essential learnings and learnings specific to areas of study. Development guidelines regarding core curriculum, then, apply to all courses, no matter what the language of instruction.

Common Essential Learnings

Proposal: The common essential learnings should be further identified after thorough study by the Department of Education and educational experts in the related fields. A listing of the common essential learnings should be made available for curriculum designers at both the provincial and local levels.

Discussion

Because the common essential learnings are proposed as necessary for all students, it should be a responsiblity of the curriculum designer to ensure that all courses of study contain the common essential learnings as they apply to the particular course.

Before development and integration of common essential learnings can occur, further study, research, and refinement is needed. A process to conceptualize and verify the common essential learnings will need to be established before any listing is made available to curriculum developers. Over time, the listing will undergo revisions to make certain the learnings continue to be the most appropriate for all students. These revisions will necessitate the subsequent periodic renewal of courses of study.

Required Areas of Study

Proposal: Learnings in the required areas of study should be developed by the Department of Education in conjunction with provincial educators and experts in the contributing disciplines.

Discussion

The required areas of study should also be investigated and studied by the Department of Education and the educational community before new courses of study are written. Required learnings in each area of study should be organized into age-specific clusters to serve as the basis for course development at each grade level. In combination with the common essential learnings, the learnings in each area of study will form the core curriculum.

Here again, required learnings should receive regular review and verification within the curriculum development cycle. Updating and modifying of required learnings will result in relevant course content, skills, and attitudes. The involvement of business and labor organizations, parent advisory committees, other groups and individuals from the community will ensure that the core curriculum meets a range of needs.

Adaptive Component

Proposal: Curriculum developers should facilitate local adaptation by developing curriculum with the adaptive component in mind. Course requirements should fall within the 70% time allocation. Ideas for enrichment, extension, and reinforcement should be included in the remaining 30% to form the adaptive component.

Discussion

All courses of study should be developed on a continuum of learning from kindergarten to grade 12. At each grade level, the appropriate common essential learnings and the required learnings from the areas of study should be allotted 70% of the time available to the course of study. The remaining 30% will provide time to enrich, extend, and reinforce the curriculum for individual students.

Within each course of study, curriculum developers should provide suggested activities for adaptation. Selection of suggested or other activities, however, must be made at the local level if student needs are to be accommodated.

Curriculum Procedures Manual

Proposal: A curriculum procedures manual should be prepared by the Department of Education to guide provincial and local course development.

Discussion

Directions recommended that a curriculum development manual be prepared to assist curriculum developers at the provincial and local levels. A display of the K-12 continuum of common essential learnings and their relationship to the required areas of study should be included to provide a broad picture of the core curriculum components.

In addition, guidelines to support development initiatives in school divisions should be outlined in the manual. These guidelines should describe effective procedures for course development, as well as suggestions for incorporating the common essential learnings into each locally developed course.

Chapter Five

Making it Work

Developing policy and preparing new curriculum guides are obvious steps toward implementation of a new curriculum. However, if proposed changes are to have a lasting effect, a whole network of activities and consultations must occur. Although curriculum development is initiated at the provincial level, all levels of the education system are involved when it comes to making a new curriculum work.

Because of its scope, the proposed core curriculum has a wide range of implications for all levels. These implications can be examined under three main headings: teacher education, articulation, and school program.

Making it Work Through Teacher Education

Discussions among educators and educational organizations during the Curriculum and Instruction Review led to the firm conclusion that teacher education must extend from preservice university-based programs throughout the working life of teachers. The artificial separation of teacher education into preservice and inservice education has not aided teachers or schools and children. Professional development, therefore, should be seen as a continuous process.

It is no longer possible for four years of preservice teacher education to prepare teachers for a 35-year career. This proposal invites educators, be they in the universities, schools, the department, or board offices, to re-examine their teacher education programs in light of the core curriculum. The proposal also invites educators to create the necessary changes and improvements in the ways they wish to support teachers' enhancement of their knowledge, skills, and attitudes, and to implement their improvements in a positive and sensitive way.

The implications, of course, are many for teacher education programs in universities. Teacher educators will need to examine their own potential to provide prospective teachers with the skills and abilities required to teach the core curriculum. By focusing on interrelatedness of content and the common essential learnings, teacher educators can model what they expect of prospective teachers.

At the same time, a similar examination of educational opportunities for teachers presently teaching in our schools will be needed. There is little question that a major effort on the part of all members of the educational community will be required to come to grips with the concept of a core curriculum.

As suggested, this re-examination must take place throughout the school system. Individuals, formal and informal working groups, educational organizations, and the department will need to examine their involvement in and the contributions they might make to teacher education.

The success or failure of the core curriculum proposal will ultimately be measured in classrooms; it is the classroom teachers in Saskatchewan who will ensure that the proposals succeed. How the rest of the educational community responds to the educational needs of teachers will, in large measure, determine how capably and willingly classroom teachers proceed.

Successful improvements come through joint effort. They come through each partner in the enterprise searching for ways to enhance his or her commitment and contribution to the mission. And the mission here is to implement a substantially revised program of studies for Saskatchewan children. To the extent that each partner makes the necessary commitment to teacher education, implementation will be successful.

Making it Work Through Articulation

Decisions made about the scope and nature of school programs influence not only schools, but also post-secondary institutions and employers of school graduates. Although some efforts have been made to include the universities and the business sector in discussions about changes in school programming, a great deal of work remains to be done.

Articulation means that those involved work together rather than in opposition. In order for articulation to occur, communication and collaboration are essential. In a well-articulated organization, one group does not function without informing others of its intentions. Universities, technical schools, and businesses, for example, should not set expectations for school graduates without informing those directly involved with secondary education. Neither should educators plan a curriculum without consultation with parents, the business community, and post-secondary institutions.

Communication with Parents

Parents, of course, have a responsibility to make their needs and wishes known about the school program. Parents in Saskatchewan have made clear that they want their children's options to remain open for as long as possible. To this end, the Core Curriculum Policy Advisory Committee advocates a common core with room for choice. However, consultation with parents must continue. Parents can help make the proposed core curriculum work only if they are meaningfully involved.

Communication with Business and Labor Organizations

Employers and the business community are in some ways less demanding of the school than the post-secondary institutions. Typically, employers ask that prospective employees have completed grade 10, 11, or 12 and are less specific in terms of what course work should be taken. On the other hand, however, employers demand that their employees have a strong grasp of basic skills, the ability to get along easily with other staff and customers, and a commitment to improving the business or industry they choose to join as an employee. Both now and in the future, prospective employees must have the ability required to take advantage of training and education opportunities provided by the employer or labor organization.

The discussions which have occurred between the Core Curriculum Policy Advisory Committee and employers have resulted in strong support for the concept of common essential learnings. A commitment has been made to extend discussions and explore new opportunities for students to learn about business, industry, and labor.

Post-Secondary Articulation

Program policy decisions cannot be made in isolation from the post-secondary education community. It is essential in the 1980's for students to understand that education does not begin and end in the public school. Decisions about program, therefore, must be made in full knowledge of the needs and expectations of universities and technical training institutions.

On the other hand, post-secondary institutions should not control what is taught in secondary schools, and ongoing articulation between elementary-middle-secondary education and post-secondary education are necessary. Prior to adopting a revised secondary education policy, policy-makers must explore the implications of their proposals and assure parents and students that they will not be caught between competing educational policies.

Articulation with Other Policy Committees

At various times, special committees are formed to investigate specific aspects of education and propose changes. Several committees, including the Heritage Language Committee, and the Minister's Advisory Committee on the School Year/School Day, have been meeting parallel to the Core Curriculum Policy Advisory Committee. In addition, ongoing advisory committees such as the Indian/Metis Curriculum Advisory Committee and the Minister's Official Minority Language Committee are responsible for advising the Minister of Education.

Recommendations of these committees influence policy and should, therefore, be carefully taken into account when final decisions are made regarding core curriculum. Such advisory committees play a major role in curriculum planning for the students of Saskatchewan.

Summary

The policies suggested in this report will affect school programming and subsequently affect post-secondary institutions, business, and industry. The Committee has laid the groundwork for a continuing dialogue. A strong commitment exists now on the part of all those involved to extend and share their common interest in elementary-middle-secondary education policy making.

Making it Work Through School Program

What happens at the school and classroom level is undoubtedly what has the most impact on students, no matter what the curriculum. Four aspects of the school program are particularly relevant in making the proposed core curriculum work: integration, adaptation, guidance and counselling, and alternative delivery mechanisms.

Integration

The Core Curriculum Policy Advisory Committee supports inter-disciplinary approaches to teaching and integration of subjects across the areas of study. With the introduction of the two components of the core curriculum, integration of subject matter throughout the course offerings will be facilitated. The common essential learnings provide a basis for combining similar elements across subject areas at each grade level on a kindergarten to grade 12 continum.

Creative and innovative ways of integrating are often developed by the teacher at the classroom level. However, when courses of study are being designed, integration should be encouraged in the following ways:

1. By focusing on integration of common essential learnings across all areas of study at a particular grade level. Similar concepts, skills, or attitudes in various areas of study can provide opportunities for teachers of diverse subject areas to plan integrated learning experiences for students. This type of integration has been undertaken by teachers at the elementary and middle years levels where themes or topics are used to organize learning opportunities. At the secondary level, growing interest in integration is apparent. Curriculum planners can facilitate integration at elementary, middle, and secondary levels by providing examples of integrated experiences in curriculum guides.
2. By developing the required areas of study on a K-12 continuum of knowledge, skills, and values. The K-12 continuum of required learnings encourages integration of learnings at successive stages. Through integration students can understand the linkages among learnings as they progress through school.

In "real life", events do not occur in isolation. Integrated approaches to teaching can provide the opportunity for students to examine a topic or theme from a variety of perspectives and see the interrelatedness of areas of study. Integration also provides opportunities for specialists to communicate and co-operate rather than compete for time.

Adaptation

The adaptive component of the core curriculum is intended to improve education for all students. It provides a place in the curriculum for meeting the unique needs of all students. The adaptive component, however, has particular implications for those students who now receive some form of what is known as special education, including programs for all ranges of exceptionality.

In local programs, teachers and administrators will need to ensure that the common essential learnings are included and adapted as necessary to meet these special needs. For example, a child whose communication is so impaired that he or she can only communicate through head movements should not be required to develop a facility with languages. That child, however, should be encouraged to develop his or her unique form of communication to the greatest degree possible.

In order to meet special needs, classroom teachers and resource teachers can work together, recognizing each other's own abilities in understanding the needs of particular children. In the development of a core curriculum, the involvement of special educators will help to ensure that opportunities for reinforcement and enrichment are included in learning activities.

The following two aspects of core curriculum are particularly relevant when planning to meet special needs:

1. The developmental nature of the program allows students to begin learning at the appropriate place on the curriculum continuum.
2. The concept of common essential learnings allows what is essential for ***all*** students to be included in programs for children whose particular exceptionalities make some aspects of the core curriculum inappropriate for them.

Guidance and Counselling

Guidance and counselling in Saskatchewan currently consists of four components: guidance and counselling services, group activities in guidance, career education, and career education activities. All four components of guidance and counselling are currently being assessed by Saskatchewan Education.

The proposed core curriculum necessitates that guidance and counselling be given increased emphasis. The common essential learnings include the category "Independent Learning". Independent learning is, therefore, an essential part of the entire curriculum, and students should have direct access to guidance and counselling beginning with kindergarten. As the opportunities for decision-making are extended as the student moves through the system, so should the provision of guidance and counselling services. However, guidance and counselling should not be seen just as a service. Certain aspects of guidance and counselling will be included in the core curriculum through the common essential learnings and are, therefore, integral components of a student's education.

Alternative Delivery Mechanisms

One of the primary purposes of the core curriculum proposal is to open up educational possibilities to all students in the province. Increased time for student choice at the secondary level and increased time for local options at all levels will help make education appropriate and relevant for all students.

With the increased options for students and school divisions comes the question of how schools can respond to requests for a variety of course offerings. The Core Curriculum Policy Advisory Committee saw an increased role for the Provincial Correspondence School, community-based programs, modular courses, and technological delivery mechanisms.

Community resources should be considered when planning elective courses. One guideline that could be considered is the "contact hour" weightings that have been in use at the college and university level. A specific number of community-based contact hours could make up the equivalent of one school-

based contact hour. With this in place, a student might elect to take a community certification course such as St. John's Ambulance first-aid as a module toward completing a health education/physical education requirement. A wide range of community-based electives could be considered, including evening or afternoon courses through the community college or university extension.

As advances in technology are providing an ever-increasing range possibilities, the Department of Education and local school divisions should continue to investigate and update alternative delivery mechanisms. Distance education should be viewed as a way of providing unique opportunities for meeting educational needs.

Making it Work for Saskatchewan Schools

A new curriculum can cause anxiety, frustration, and resentment among the people who are expected to use it. For this reason, involvement in both planning and implementation is essential at all levels. Curriculum planners must listen when they hear questions like the following: Can my small high school offer this program? Will I be given adequate opportunities to learn whatever new skills and knowledge I'll need to teach in this program? Are our graduates going to be able to get into universities, not only in this province but elsewhere in Canada? With general courses like aesthetic education, will my students still be exposed to specialized subjects? Will this new program allow time for students to participate in special programs like band?

If the answer to any of these questions is no, then the proposed core curriculum won't work. What is essential is that the opportunities and time for consultation, input, articulation, and training are provided so that the answers to all of the above questions are yes. Policy makers and curriculum planners must listen and respond to concerns and suggestions to enable all those involved to make the core curriculum work for Saskatchewan schools.

Summary of the Proposals

What follows is a list of all proposals. A page number for each is included so they may easily be found in the body of the report.

Two Components of Core Curriculum

Common Essential Learnings

Proposal: Six categories of common essential learnings should be incorporated into all courses of study offered in Saskatchewan schools.

p.11

Required Areas of Study

Proposal: Required areas of study should form the framework of the Saskatchewan curriculum. These areas represent the basic "ways of knowing" and experiencing the world. They should provide learnings unique to each area, and should serve as vehicles for attaining the common essential learnings.

p.14

Balance of Time

Balance of Provincially Required and Locally Determined Courses of Study

Proposal: The following balance of time should be allocated to required and optional aspects of the school program at the elementary, middle, and secondary levels.

	Provincial Requirements	Locally Determined Course Offerings
Elementary*	80%	20% *
Middle	70%	30%
Secondary	55%	45% **

*It is emphasized that the option to offer locally selected courses at this level is up to the school division. The entire school day could be devoted to the required courses of study.

**These percentages refer to time needed to fulfill provincial requirements. Additional time is available in the school year for other credits.

p.17

Adaptive Component

Proposal: The adaptive component designates time within each course of study to be reserved for the adapting the curriculum to meet the needs of students.

It is proposed that 70% of the time in each course be devoted to the essential portion of the curriculum and 30% be reserved for the adaptive component.

p.18

Elementary Level: Kindergarten

Proposal: The kindergarten program should be seen as the initial step toward acquisition of the common essential learnings.

p.20

Elementary Level: Grades 1-5

Proposal: The following allocation of time should be considered for the required areas of study in grades 1 through 5.

Area of Study	Minutes per Week
Language Arts	350
Mathematics	210
Aesthetic Education	160
Physical Education/Health Education	160
Social Studies	160
Science	160
Time available for locally determined options	300
Total time available	1500

p. 21

Middle Level

Proposal: The following allocation of time should be considered for the required areas of study at the middle level (grades 6, 7, 8, and 9*):

Areas of Study	Minutes per Week
Language Arts	230
Mathematics	200
Aesthetic Education	155
Physical Education/Health	155
Social Studies	155
Science	155
Time for locally determined courses**	450
Time available	1500

*Grade 9 is considered a transitional year and, as such, decisions about the appropriate program must be made at the local level.

**Locally determined options can include local requirements and elective courses.

p.23

Secondary Level

Proposal: The Committee proposes that the following credit* allotment should be considered for grades 10, 11, and 12:			
Grades	10	11	12
Required Courses of Study	1 Language Arts** 1 Mathematics 1 Aesthetic Education 1 Health Education/ Physical Education 1 Science 1 Social Studies	1 Language** Arts	1 Language** Arts
Total	6 credits	2 credits	
Elective Courses From Specified Areas of Study		1 Mathematics area 1 Aesthetic Ed. or Fine Arts area 1 Health Ed./ Physical Ed. area 1 Science area 1 Social Studies area	
Total		5 credits	
Unspecified Elective Courses	Minimum of 2	Minimum of 9	
Grade Standing	Minimum of 8 Credits	Minimum of 16 Credits***	

*1 credit = 100 hours of classroom instruction
**In designated schools, language arts courses may be replaced by designated language courses.
***A minimum of 3 credits must be taken in the areas of applied or practical arts. This requirement can be met through either of the two categories of elective courses.

p.25

Related Program Policy

Prerequisite Requirements

Proposal: Prerequisite requirements for courses of study should be eliminated wherever possible.

p.29

Evaluation

Proposal: In *Directions*, action recommendation #9 deals deals with evaluation. This recommendation should be implemented immediately so that evaluation is provided for in the development of the core curriculum.

p.30

Alternative Programs

Proposal: Policy should be drafted to provide guidelines for alternative programs within Saskatchewan school systems.

p.30

Guidelines for Curriculum Development

Common Essential Learnings

Proposal: The common essential learnings should be defined in depth after thorough study by the Department of Education and educational experts in the related fields. A listing of the common essential learnings should be made available for curriculum designers at both the provincial and local levels.

p.31

Required Areas of Study

Proposal: Learnings in the required areas of study should be developed by the Department of Education in conjunction with provincial educators and experts in the contributing disciplines.

p.32

Adaptive Component

Proposal: Curriculum developers should facilitate local adaptation by developing curriculum with the adaptive component in mind. Course requirements should fall within the 70% time allocation. Ideas for enrichment, extension, and reinforcement should be included in the remaining 30% to form the adaptive component.

p.32

Curriculum Procedures Manual

Proposal: A curriculum procedures manual should be prepared by the Department of Education to guide provincial and local course development.

p.33

Selected Bibliography

Academic preparation for college. What students need to know and be able to do. (1983). New York: College Entrance Examination Board, Office of Academic Affairs. (ERIC Document Reproduction No. ED 232 517)

Adler, M. (1982). *The Paidei Proposal: Rediscovering the essence of education.* The American School Board Journal, 169(7).

Alberty, H. Section II: Over-all Design of Programs for Youth. Chapter VII: Designing Programs to Meet the Common Needs of Youth. *Adapting the secondary-school program to the needs of youth.* The 52nd yearbook of the National Society for the Study of Education. Edited by Nelson B. Henry.

Apple, M. W. (1983). Curriculum in the year 2000: Tensions and possibilities. *Phi Delta Kappan, 64*(5).

Basic Life Skills. (1979). (Technical Report No. 08-BLS-21). Denver, Colorado: Education Commission of the States, National Assessment of Educational Progress. (ERIC Document Reproduction No. ED 177 170)

Basic Skills. (1982). London, England: Further Education Curriculum Review and Development Unit. (ERIC Document Reproduction No. ED 224 989)

Beyer, B. K. (1984). Improving thinking skills - defining the problem. *Phi Delta Kappan, 65*(7), 486-490.

Boyer, E. L. (1983). *High School: A report on secondary education in America.* Carnegie Foundation for the Advancement of Teaching.

Burbank, L., & Pett, D. W. (1983). Eight dimensions of visual literacy. *Instructional Innovator, 28*(1), 25-27.

Canadian Guidance and Counselling Association. (1982?). *Development of the CGCA position paper for guidance and counselling in Canada.*

Cantor, H., (Ed.) (1980). Proceedings of the SUNY intercampus conference on general education. Community College General Association, Utica, N.Y. (ERIC Document Reproduction ED 196 488.)

Cheever, D. S. Jr., & Sayer, G. A. (1982). How we defined our core curriculum. *Educational Leadership,* 39(8).

Chitty, C. (1979). The common curriculum. *Forum for the Discussion of New Trends in Education, 21*(3).

Cochrane, D. B., & Schiralli, M., (Ed.). (1982). *Philosophy of education: Canadian perspectives.* Collier MacMillan, Canada Inc.

Conrad, C. F. (1978). *The undergraduate curriculum: A guide to innovation and reform.* Westview Press, Boulder, Colorado.

Covert, J. R. (1982). *A structural case for curriculum reform.* The Study of Education: Canada. Ninth Yearbook. Canadian Society for the Study of Education.

Dave, R. H. (Ed.). (1976). *Foundations of lifelong education.* New York, NY: Pergamon Press.

Duffy, J. (1981). *The Saskatchewan Division IV English curriculum guide.* Unpublished paper prepared for EDC1 649, University of Alberta.

D'Zamko, M. E., et al. (1983, April). *Coping skills.* Paper presented at the Annual International Convention of the Council for Exceptional Children, Detroit. (ERIC Document Reproduction No. ED 231 170)

Edmond, D. R. (1984). Educational integration attitude change and the school. *Education Canada.*

Eisner, E. W. (1982). *Cognition and curriculum: A basis for deciding what to teach.* New York, NY: Longman.

Finn, C. E. Jr. (1983). The new basics for everyone. *Educational Leadership, 41*(2).

Fullan, M. (1982). *The meaning of educational change.* OISE Press.

Gaff, J. (1981). Reconstructing general education: Lessons from Project GEM. *Change, 13*(6).

Glaser, R. (1984). Education and thinking: the role of knowledge. *American Psychologist, 39*(2), 93-104.

Goodlad, J. Rebuilding the curriculum. *The Structure of School Improvement.*

Goodlad, J. (1984). *A place called school.* Montreal, Que: McGraw Hill.

Greene, M. (1983). Don't settle for functional literacy. *ASCD Update, 25*(3).

Henry, N. B. (editor). (1958). *The integration of educational experiences.* The Fifty-Seventh Yearbook of the National Society for the Study of Education, Part III.

Hersh, R. H. (1983). How to avoid becoming a nation of technopeasants. *Phi Delta Kappan, 64*(9), 635-638.

Hughes, A. S. (1982). Which way general education? *Educational Leadership, 39*(8).

Hunt, J. B. Jr., Chair (1983). Action for excellence: Excerpts from the task force report. *Educational Leadership, 41*(1).

Ingram, D. E. (1980). Languages and the core curriculum. *Babel: Journal of the Australian Federation of Modern Language Teachers' Association, 16*(3).

Kirst, M. W., & Walker, D. F. (1971). An analysis of curriculum policy-making. *Review of Educational Research, 41*(3).

Krasnor, L. R., & Mitterer, J. O. (1984). LOGO and the development of general problem-solving skills. *The Alberta Journal of Educational Research, 30*(2), 133-144.

Laghi, B. (of the Star-Phoenix). (1984). 'Learning how to learn' program set. *Star Phoenix*, October 24, 1984.

Lawton, D. (1980). What kinds of common curriculum? *Forum for the Discussion of New Trends in Education, 22*.

Lawton, J. T., & Wanska, S. K. (1978). *Transfer effects of different types of advance organizers.* (ERIC Document Reproduction No. ED 153 920)

Mullen, K. P. (1982). An inquiry concerning the core curriculum concept in general, the math based core curriculum concept in particular and a model for the development of a math based core curriculum. Master's Thesis, University of Maryland. (ERIC Document Reproduction ED 220 342.)

Nagy, P. (1984). An examination of differences in high school graduation standards. *Canadian Journal of Education, 9*(3).

(NO AUTHOR). Report on CMEC activities in support of a more compatible core curriculum and Canadian educational publishing.

Overton, H. (1966). The rise and fall of the core curriculum. *The Clearing House, 40*(9).

Preparing students to adapt with the new technology. (1983). Carbondale: Southern Illinois University, College of Education. (ERIC Document Reproduction No. ED 227 261)

Saskatchewan English Teachers' Association. (1985). *The Saskatchewan English Teachers' Association submission on core curriculum.* Saskatoon: Saskatchewan Teachers' Federation, Saskatchewan English Teachers' Association.

Scott, R. O. (1983, April). *Achieving curriculum alignment in schools.* Paper presented at the Annual Meeting of the American Educational Research Association, Montreal. (ERIC Document Reproduction No. ED 239 379)

Shaw, T. J. (1983). The effect of a process-oriented science curriculum upon problem-solving ability. *Science Education, 67*(5), 615-623.

Short, E. C. (1983). The forms and use of alternative curriculum development strategies: Policy implications. *Curriculum Inquiry, 13*(1).

Sizer, T. R. (1984). A time of renewal. *Independent School, 43*(3).

Sotiriou, P. E. (1984). *Reasoning: the deep structure of study skills instruction.* (ERIC Document Reproduction No. ED 243 533) Thinking skills in the curriculum. (1984, September). (Special issue). *Education Leadership, 42*(1). Steil, L. K. (1984). Listen and learn: Improving listening across the curriculum. *Curriculum Review, 23*(1).

Thompson, L. (January, 1985). *Time and education: A review of the literature.* Unpublished report, Saskatchewan Education, Regina.

Travis, T. G., Facione, P. A., & Litwin, J. L. (1978). Beyond the core curriculum: An outcomes approach to general education. *Liberal Education, 64*(4).

Tripp, D. H., & Watt, A. J. (1984). Core curriculum: What it is and why we don't need one. *Journal of Curriculum Studies, 16*(2), 131-141.

Toomey, R. (1980). Dreams and realities about values and core curriculum in secondary schools. *The Australian Journal of Education, 24*(1).

Vars, G. F. (1968). The core curriculum: Lively Corpse. *The Clearing House, 42*(9).

Vars, G. F., & Larson, C., (Eds.) (1980). Core today: Rationale and implications. *National Association for Core Curriculum.* (ERIC Document Reproduction ED 212 609.)

Vars, G. F. (1981). These are the times that try men's souls: Some thoughts on the core curriculum movement. (Paper presented at the annual meeting of the National Association for Core Curriculum, October 1981.) *National Association for Core Curriculum.* (ERIC Document Reproduction ED 217 540.)

Von Kuster, L. N. (1984). Strategies, no solutions: Involving students in problem solving. *Curriculum Review, 23*(1).

Warnat, W. (1983, June). *The challenge: developing technological literacy in education.* Paper presented at the Science and Mathematic Education Needs Assessment Conference, Ypsilanti, MI. (ERIC Document Reproduction No. ED 234 012)

What high school graduates need. (1984?) *In Heckert report on education and employment* (pp. 17-27). National Academy of Sciences, National Academy of Engineering and the Institute of Medicine.

Wilcox, W. C., & Wilson, B. G. (1979, January). *How to study: the neglected basic.* Paper presented at Brigham Young University Midyear Conference, Provo, UT. (ERIC Document Reproduction No. ED 201 580)

Appendix A

Common Essential Learnings

Common essential learnings include skills, attitudes, values, and cognitive abilities in six categories. Although the Committee prepared a list, additional work will be required to ensure that these learnings are sufficiently comprehensive to meet the school's obligations for attainment of the goals of education. The following learnings, then, are examples of what each category might entail.

Communication Skills

1. Engages in a variety of experiences with language: for example, expressing, listening, viewing, creating, understanding, responding, and explaining.
2. Becomes aware of the interrelationship between communication skills and creative and critical thinking.
3. Is able to communicate in a variety of settings.
4. Develops the ability to read and comprehend.
5. Develops writing abilities to clarify thinking and to communicate with others.
6. Develops the ability to speak with and to a variety of groups, both formally and informally.
7. Develops interactive listening skills.
8. Develops a facility with viewing skills: understanding, analyzing, evaluating, and producing.
9. Develops the ability to understand and use non-verbal communication.
10. Develops the ability to use written and oral language that is appropriate to various audiences.
11. Applies the skills of reading, writing, speaking, listening, and viewing.
12. Develops the special vocabulary and the mode of expression and thought of each subject area.
13. Develops the ability to communicate in the standard forms of language.

Creative and Critical Thinking

1. Realizes and appreciates the complexity of creative and critical thinking.
2. Realizes that critical thought involves knowledge and feelings.
3. Addresses problems in a responsible, effective, and efficient manner by identifying the problem, analyzing causes of the problem, judging sources of information, generating alternate solutions, predicting consequences of possible alternate solutions, and making decisions.
4. Refines planning skills by sorting and classifying items; setting goals, priorities and sequence for accomplishment of a task; estimating time needed to perform activities; locating information about duties, methods, procedures, and resources needed; and revising and updating plans as required.
5. Recalls and utilizes previously learned knowledge and skills: for application in a new situation, for drawing analogies, for making inferences, for synthesizing information, and for expressing and defending a personal view point.

6. Generates and considers alternatives and proposes new or innovative ideas.
7. Recognizes the value of intuitive thinking as well as logical thinking.
8. Recognizes, understands, and utilizes appropriately the variety of processes in decision-making.

Independent Learning

1. Realizes and appreciates that in-school learning is one component of growth and development in life.
2. Identifies and plans for extension of school activities into activities in the home and community, both in the present and the future.
3. Identifies the need for and develops skills in evaluating personal progress in learning.
4. Sets personal goals and priorities and identifies the contribution the school program can make to each of these.
5. Establishes surroundings and habits conducive to learning independently or with others.
6. Develops the ability to search out required information.

Numerical and Quantitative Literacy

1. Recognizes and appreciates the need and the value of understanding the world quantitatively.
2. Estimates and approximates in order to evaluate the reasonableness of the result.
3. Reads information from charts, graphs, and tables and applies this information to arrive at interpretations and conclusions.
4. Understands and interprets statistical information.
5. Collects, organizes, interprets, presents, draws inferences, and predicts from data.
6. Uses graphs, sketches, and diagrams to aid in visualizing and conceptualizing a problem or a solution.

Personal and Social Skills and Values

1. Achieves self-awareness and independence.
2. Works effectively by oneself and co-operatively as a member of a team.
3. Understands personal rights in relationship to the rights of others.
4. Takes responsibility and is accountable for the effects of one's own initiative.
5. Learns to use leisure time in a way that contributes to personal well-being.
6. Appreciates the importance and value of humor.
7. Offers and accepts criticism constructively.
8. Accepts individual responsibility for behaviors in building and maintaining relationships.
9. Handles conflict maturely and systematically.
10. Has the ability to work co-operatively in group problem-solving situations.
11. Shows compassion and empathy toward one's fellow beings.

12. Gets along with and works effectively with all people.
13. Displays respect for nature and a sense of stewardship for the environment.
14. Knows and respects the opinions, customs, and individual differences among people.
15. Displays fairness, honesty and tolerance.
16. Feels comfortable about living in a multicultural, pluralistic society.
17. Has a sense of co-responsibility and feels a sense of global citizenship.

Technological Literacy

1. Understands how society influences science and technology as well as how science and technology influence society.
2. Recognizes the limitations as well as the usefulness of science and technology in advancing human welfare.
3. Comprehends the technological process as a creative, deliberate, and systematic problem-solving technique which draws upon and is constrained by knowledge, material, and capital and moral resources.
4. Recognizes and is familiar with the products and applications of science and technology.
5. Appreciates the social, environmental, economic and cultural consequences of technological products and applications.
6. Has an awareness of continuous technological change and the need to plan for the future.
7. Has an awareness of how computers work and of when and how computers may be used in the academic disciplines, various fields of work, and daily life.
8. Uses science concepts, processes skills, and values in making responsible everyday decisions.

Appendix B

Description of Current Programs

Current Elementary Program Division I and II

Subject	Minutes Per Week
Language Arts	560
Mathematics	210
Physical Education	150
Social Studies	150
Science	150
Music	100
Art	100
Health	80
Electives	0

Current Middle Years Program Division III

Subject	Grade		
	7	8	9
Language Arts	360	300	300
Mathematics	200	180	180
Social Studies	160	160	160
Science	160	160	160
Physical Education	150	150	150
Health/Guidance	120	100	100
Music	100	100	—
Art	100	100	—
Electives	150	250	450

Current Secondary Program
Division IV

	Grade 10	Credits	Grade 11	Credits	Grade 12	Credits
Compulsory Subjects	English 10	2	English 20	2	English 30	2
	Mathematics 10	1			Social Studies 30 or Social Studies 30H	1
	Science 10	1			or	
	Social Studies 10	1			*Economics 30	1
Compulsory Areas	Mathematics - Science Group At least one credit from the mathematics-science group at level 20 or 30. Mathematics 1 or 2 Biology 1 Chemistry 1 Geology 1 Physics 1					
Service Areas	Guidance Physical Education		Guidance Physical Education		Guidance Physical Education	
Credits for Standing	Minimum of 7 credits for Grade X standing.		Minimum cumulative total of 14 credits, 5 of which shall be earned at the Grade XI level or higher.		Minimum cumulative total of 21 credits.	
Graduation Requirement					A total of 21 credits, 5 of which shall be earned at Grade 12 level.	

* A board of education that is satisfied that adequate provision is being made in the school for pupils who wish to take social studies in Grade 12 may approve Economics 30 (Economics Issues: A Canadian Perspective) as the Canadian Studies requirement in Grade 12.